What Parents and Student Athletes Need to Know About Concussions

If you suspect your student athlete has a concussion, you need quick, easily accessible information about making the best possible treatment and care decisions. At Premier Health, we understand your concerns, so this guide provides information that will help you and your student athlete better-understand the entire diagnosis, treatment and return-to-play process. If you suspect your student athlete may have any type of brain injury – including a concussion – seek immediate medical attention.

UNDERSTANDING CONCUSSIONS AND RISKS

A concussion, the most common kind of traumatic brain injury, can be caused by a blow to the head, a fall, or a hard hit to the body that causes the head to be jolted, or suddenly spun. The hit or fall causes a movement of the brain within the skull, changing the way the brain normally works.

Concussions are sometimes called "mild" traumatic brain injuries because they aren't usually life-threatening, but they should still be considered serious injuries as they do represent brain trauma.

All student athletes, regardless of chosen sport, are at risk for concussions, so it's prudent to be prepared just in case. Educate yourself and your student athlete about the signs and symptoms of a concussion. If it's available at your school, have your student athlete evaluated for baseline cognitive function before starting the season so you have a benchmark in the event of a concussion. At Premier Health, we use the ImPACT Testing system. Also, check with the school to see if they have a concussion care plan in place.

CONCUSSION SIGNS AND SYMPTOMS

There are a variety of signs and symptoms that typically accompany a concussion. These may not be noticeable right away, but could present themselves days, weeks, or even months after a head injury. Some of these, according to the American College of Sports Medicine, include:

- Anxiety
- Blurry vision
- Changes in sleep pattern
- Change in academic performance
- Concentration problems
- Confusion or lack of clarity
- Dizziness or balance problems
- Fatigue
- Headaches
- Irritability
- Loss of consciousness
- Memory loss
- Mood changes
- Nausea or vomiting
- Sensitivity to light and sound

It is important to encourage your student athlete to be honest with you about the symptoms he or she feels. Sometimes, young people with concussions can feel pressure to "tough it out" and get back to a normal routine as quickly as possible. But, the brain needs time to recover, and that recovery can be aided by knowing what symptoms your student athlete may be experiencing.

BUILDING A RECOVERY CARE TEAM

Once your student athlete has been diagnosed with a concussion, he or she will begin to work through the recovery process, and you will want to be your student athlete's strongest advocate. Make sure that you form a recovery care team with your family, your student athlete's doctors, athletic trainer, school nurse, the school's counselor, administrators, teachers, and coaches so that everyone will know the signs and symptoms to watch for after a concussion.

Create a communication network among the care team, so that everyone knows their roles and feels comfortable openly sharing concerns they may have about your student athlete's recovery process. Everyone on the team will have your student athlete's best interest and recovery in mind.

As the parent, a key role is to ensure that updated information about your student athlete's recovery continues to be shared with the team, including whether the school workload is too much, if the school day is making him or her too tired, and if your student athlete's physician has any concerns.

POST-CONCUSSION TREATMENT

While most student athletes recover quickly from a concussion, others have effects that last much longer. The severity of the concussion may affect the speed of recovery.

The brain needs rest to help it heal, making physical rest – and especially mental downtime – vital to the concussion recovery process. While student athletes might feel that being inactive while still using electronics is okay during recovery, texting and social media use on smartphones, tablets, and computers can be the biggest offenders of over-stimulating the brain. If your student athlete had a pre-season baseline cognitive function test such as ImPACT, a follow-up test to assess his/her current condition may be given to aid in the creation of an effective treatment plan.

It is important to take the proper steps to help in the recovery process. You should continue to care for your student athlete by having them follow these care tips:

- Rest during the day
- Eat a light, healthy diet
- Get plenty of sleep
- Avoid physically demanding activities
- Keep away from bright lights and loud sounds
- Only take medications approved by the doctor
- Only use acetaminophen (Tylenol) for headaches; do not use aspirin or ibuprofen
- Avoid alcoholic beverages
- Do one thing at a time
- Don't work on the computer, play video games, or text during the early parts of recovery
- Do not drive a car, ride a bike, or operate heavy machinery until cleared by a doctor, because reaction time can be slow
- Write down things that seem difficult to remember
- Talk with family and/or close friends when making important decisions
- Return to normal activities gradually when approved by a physician, and on a lighter schedule when possible
- Do not play or practice sports until cleared to return to play by a family physician or physician trained in concussion care

POST-CONCUSSION SIGNS AND SYMPTOMS

Monitor your student athlete for the first one to two days after the initial injury. If any of these signs or symptoms occur, seek medical attention immediately.

- Bleeding/fluid from the ears or nose
- Convulsions
- Double vision
- Numbness in the arms, legs, or face
- Projectile or repeated vomiting
- Severe or increased headache
- Severe personality changes
- Unequal pupil dilation
- Unusual stiffness in the neck

Additional rehabilitation may be necessary to reach full recovery. If you and your student athlete's physician have concerns because recovery seems to be slow or not progressing as planned, talk about possible additional neurologic, physical, or psychological rehabilitation.

RETURN TO ACADEMICS

A concussion may affect your student athlete's return to the classroom and other non-contact activities, but you can take steps to help successfully ease your student athlete back into a normal routine.

It may be beneficial to start back to school slowly; for example, going for only half days at first, and taking multiple breaks during study sessions.

Learning-related effects to watch for include:

- Being easily distracted
- Decreased ability to cope with stress
- Difficulty with multi-step math problems
- Headaches and fatigue when doing schoolwork
- Much more time needed to complete assignments
- Problems retaining information
- Slow reading
- Headaches and fatigue when doing schoolwork
- Much more time needed to complete assignments
- Problems retaining information

If your student athlete still seems to be struggling, there are things the school can do to help. Including:

- Having someone else take notes during classes
- Making an individualized education plan or 504B (sometimes necessary for prolonged or severe effects)
- One-on-one tutoring
- Oral exams
- Providing copies of teacher notes
- Use a reader to share the assignments out loud

If the education team works together with parents to help monitor and ease effects, the student athlete should be able to make a smooth transition back into the learning environment.

OHIO LAW AND RETURNING TO SPORTS PLAY AFTER CONCUSSION

Before a student athlete may return to playing a sport, **Ohio law requires written permission** from a physician or other licensed health care provider authorized to make that determination. The Ohio High School Athletic Association's medical authorization to return to play form can be found at **ohsaa.org/medicine/AuthorizationToReenter.pdf.**

We recommend that a student athlete who has suffered a concussion have a physician's note releasing the athlete to participate in a physical education class. Returning to any physical activity too soon may cause the signs and symptoms of a concussion to increase or return. The same guidelines used for return-to-play in a sport can be followed for return to full participation in a physical education class.

RETURN TO PLAY

Each concussion is unique. Recovering from a concussion and returning safely to play can take a different amount of time for each student athlete. It is important to work closely with your student athlete's physician, discussing all signs and symptoms, so you can help your child follow a healthy path back to daily activities.

Parents should remember:

- No student athlete should return to play if signs or symptoms remain
- Your student athlete's athletic trainers, coaches, and teachers should all be informed of the injury

It's very important to take the necessary recovery time as directed by your student athlete's physician before allowing return to play, which could be days, weeks, months, or longer, depending on the severity of the concussion. It is dangerous not to give the brain enough time to recover.

Following an established return-to-play progression is generally how physicians work with student athletes toward full participation in sports after a concussion. The progression steps are:

- **STEP 1** No activity – complete physical and cognitive rest
- **STEP 2** Light aerobic exercise – walking, light stationary biking, no-resistance training; limited head movement; other activities at 30 to 40 percent of regular intensity, and for less than 30 minutes
- **STEP 3** Sport specific exercise – stationary biking, jogging, running drills; non-impact head activities; other activities at 40 to 60 percent of regular intensity, and for only 30 minutes
- **STEP 4** Non-contact training drills –more intense non-contact drills, plyometrics, running, springing; resistance training; other activities at 60 to 80 percent of regular intensity, and for 60 to 120 minutes
- **STEP 5** Full contact – resume normal practice activities at a regular intensity level

- **STEP 6** Return to play – normal game and competition play

Your student athlete should continue through the steps in order, provided that no signs or symptoms recur during or after each activity. Each stage usually takes at least 24 hours, so unless there are additional effects or concerns, your student athlete's recovery should take about a week. If any signs or symptoms recur, your student athlete should move back to the previous stage and try the next stage again after resting for 24 hours.

MINIMIZE RISK

While minimizing the risk for concussions is important for all athletes –it is extremely important for student athletes who are returning to sports after recovering from a previous concussion. Having multiple concussions becomes increasingly dangerous, so safety becomes even more significant.

Some recommendations to help your student athlete minimize the risk for the chance of future concussions include:

- Not returning to play or practice until activity has been officially approved by the student athlete's doctor
- Encourage following the rules
- Encourage athletes to practice good sportsmanship
- Use the proper equipment
- Wear a properly-fitted helmet during sports activities, especially baseball, skiing, football, hockey, and lacrosse
- Wear a properly-fitted helmet during other activities, including biking, snowmobiling, riding a scooter, rollerblading, skateboarding, riding a horse, and sledding

ADDITIONAL INFORMATION

For more information about concussions, visit our Frequently Asked Questions page at **premierhealth.com/Your-Wellness/Live-Well-Stay-Well/Prevention-and-Wellness/Exercise-and-Fitness/Answers-to-Concussion-Questions/**. You can also talk to your doctor for more information or find a doctor at **premierhealthnet.com/doctor.**

Additional information is available on the following websites:
***Zurich Guidelines* - bjsm.bmj.com/content/47/5/250.full**
***National Athletic Trainer Association* - nata.org**
***American College of Sports Medicine* - acsm.org**
***Centers for Disease Control and Prevention* - cdc.gov**

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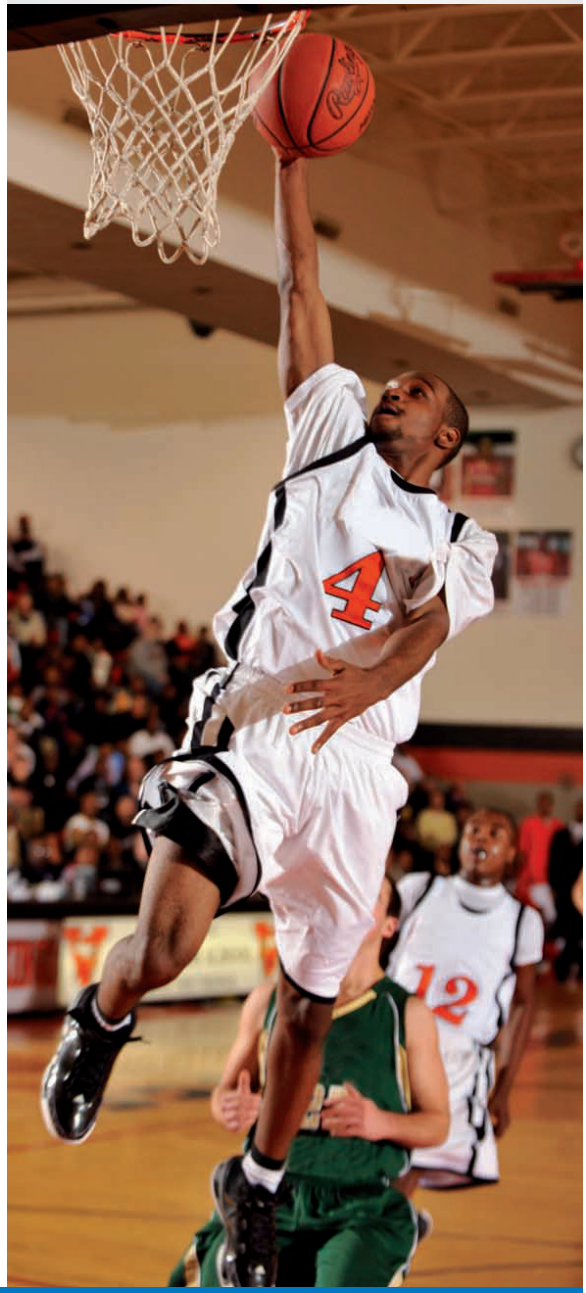
Atrium Medical Center

Miami Valley Hospital
Miami Valley Hospital North
Miami Valley Hospital South

Upper Valley Medical Center

SECOND IMPACT SYNDROME

Second impact syndrome occurs when a student athlete sustains a second concussion before complete recovery has occurred from the first injury. Having a repeat concussion before the brain has fully healed can slow recovery and can lead to long-term or even permanent problems. If a student athlete experiences second impact syndrome, brain swelling and more severe medical consequences including brain damage, paralysis, or death can occur. Concussions are serious injuries and should be monitored closely.



POST-CONCUSSION SYMPTOM SCALE

The chart below can be used to help track the symptoms of your student athlete. Record the date and then have your student athlete rate each symptom on a scale from 0 (meaning the student athlete is not experiencing the symptom at all) to 6 (meaning the symptom is severe). Bring the symtom chart to your follow up doctor appoinments for the doctor to review.

Patient's Name:_____ **Date of Birth:**_____

Please use the following scale to rate each symptom:

None		Mild		Moderate		Severe
0	1	2	3	4	5	6

Symptoms	Severity Rating						
	Date:	Date:	Date:	Date:	Date:	Date:	Date:
Headache							
Nausea							
Vomiting							
Balance Problems							
Dizziness							
Lightheadedness							
Fatigue							
Trouble falling asleep							
Sleeping more than usual							
Sleeping less than usual							
Drowsiness							
Sensitivity to light							
Sensitivity to noise							
Irritability							
Sadness							
Nervous/Anxious							
Feeling more emotional							
Numbness or tingling							
Feeling slowed down							
Feeling like "in a fog"							
Difficulty concentrating							
Difficulty remembering							
Visual problems							
Other							
Total							

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